

WHAT IS CLAIMED IS:

~~1. A system for producing holographic stereograms (holograms) on-demand by an individual customer, from source material provided by the customer, comprising:~~

5 ~~at least one data acquisition station, each having a data acquisition processor that receives image data based on the source material and a customer-based preview processor that displays a representation of the hologram for viewing by the customer;~~

10 ~~an image processing station, each having an image processor operable to generate hogel data based on image data received from the data acquisition station; and~~

15 ~~a printing station having a spatial light modulator for receiving the hogel data from the image processor and for displaying holographic object images, and having a printer for producing a master holographic stereogram;~~

20 ~~wherein the data acquisition station is in data communication with the image processing station and the printing station.~~

2. The system of Claim 1, wherein the data acquisition station is remote from the image processing station and the printing station.

25 3. The system of Claim 1, wherein the image processing station also has an operator-based preview processor operable to display a representation of the hologram for viewing by an operator of the image processor.

4. The system of Claim 1, wherein the data acquisition station is a personal computer.

5 5. The system of Claim 4, wherein the data communication is accomplished via the Internet.

10 6. The system of Claim 4, wherein the data acquisition processor and the customer-based preview processor execute with programming downloaded to the personal computer.

15 7. The system of Claim 4, wherein the customer-based preview processor displays preview images generated at a remote server.

8. The system of Claim 1, wherein the data acquisition processor receives at least input from a video source.

20 9. The system of Claim 1, wherein the data acquisition processor receives at least input from two dimensional printed material.

25 10. The system of Claim 1, wherein the data acquisition station further has a compositing processor for combining image data from different source material.

11. The system of Claim 1, wherein the data acquisition station further has a graphics database for storing image data to be added to image data provided by a customer.

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12. The system of Claim 1, wherein the data acquisition station further has a digitizer for providing image data from source material provided by a customer.

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13. The system of Claim 1, further comprising a replicating station for producing hologram copies from the master hologram.

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14. The system of Claim 1, wherein the image processing station and printing station are geographically remote and in data communication.

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15. The system of Claim 1, wherein the data acquisition processor delivers 2D sequence data to the image processor.

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16. The system of Claim 1, wherein the data acquisition processor delivers computer generated 3D graphics data to the image processor.

~~17. A method for producing holographic stereograms~~
(holograms) on-demand for an individual customer, from
customer-provided source material, comprising the steps
of:

5 acquiring image data at a data acquisition station
having a data acquisition processor that receives image
data based on the source material and a customer-based
preview processor that displays a representation of the
hologram for viewing by the customer;

10 delivering the image data to an image processing
station having an image processor operable to generate
hogel data based on image data received from the data
acquisition station; and

15 delivering the hogel data to a printing station
having a spatial light modulator for receiving the hogel
data from the image processor and for displaying
holographic object images, and having a printer for
producing a master holographic stereogram.

20 18. The method of Claim 17, wherein the data
acquisition station is remote from the image processing
station and the printing station.

25 19. The method of Claim 17, wherein the image
processing station also has an operator-based preview
processor operable to display a representation of the
hologram for viewing by an operator of the image
processor.

~~20. The method of Claim 17, wherein the data acquisition station is a personal computer.~~

21. The method of Claim 20, wherein the data
5 communication is accomplished via the Internet.

22. The method of Claim 20, wherein the data acquisition processor and the customer-based preview processor execute with programming downloaded to the
10 personal computer.

23. The method of Claim 20, wherein the customer-based preview processor displays preview images downloaded from a server.
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24. The method of Claim 17, wherein the data acquisition processor receives at least input from a video source.
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25. The method of Claim 17, wherein the data acquisition processor receives at least input from two dimensional printed material.

26. The method of Claim 17, further comprising the
25 step of compositing image data from different source material.

27. The method of Claim 26, wherein the compositing occurs at the data acquisition station.

28. The method of Claim 26, wherein the compositing occurs at a server site, such that the pre-view processor displays composited preview images downloaded from the server site.

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29. The method of Claim 17, wherein the image processing station and printing station are geographically remote and in data communication.

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30. The method of Claim 17, wherein the data acquisition processor delivers 2D sequence data to the image processor.

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31. The method of Claim 17, wherein the data acquisition processor delivers computer generated 3D graphics data to the image processor.